

Amendments to and Listing of the Claims:

Please cancel claims 38-84, without prejudice.

Please insert the following new claims 85-126, as follows:

85. (New) An antimicrobial composition comprising a eukaryotic histone H1 protein which exhibits antibiotic activity and interacts with a cell membrane of a microorganism and changes or disrupts the cell membrane, whereby at least one of death of the microorganism and inhibition of growth of the microorganisms is induced.

86. (New) The composition of claim 85, wherein the histone H1 protein is substantially purified.

87. (New) The composition of claim 86, wherein the histone H1 protein is covalently linked with polyethylene glycol.

88. (New) The composition of claim 85, further comprising a second antimicrobial composition.

89. (New) The composition of claim 88, wherein the second antimicrobial composition comprises an antibiotic selected from the group consisting of histone H2A, histone H2B, histone H3, histone H4, histone H5, penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin.

90. (New) The composition of claim 89, wherein any of the penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin is in a form selected from the group consisting of a salt and an ester.

91. (New) The composition of claim 85 further comprising a pharmaceutically acceptable carrier, wherein the composition is a pharmaceutical composition.

92. (New) An antimicrobial composition comprising a eukaryotic histone H1 protein and lysozyme.

93. (New) The composition of claim 92, wherein the histone H1 protein is substantially purified.

94. (New) The composition of claim 93, wherein the histone H1 protein is covalently linked with polyethylene glycol.

95. (New) The composition of claim 92, further comprising a second antimicrobial composition.

96. (New) The composition of claim 95, wherein the second antimicrobial composition comprises an antibiotic selected from the group consisting of histone H2A, histone H2B, histone H3, histone H4, histone H5, penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin.

97. (New) The composition of claim 96, wherein any of the penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin is in a form selected from the group consisting of a salt and an ester.

98. (New) A kit comprising the composition of claim 97 in the form of a material selected from the group consisting of a tablet, a hard or soft capsule, a cachet, a troche, a lozenge, a powdered formulation, a granular formulation, an aqueous solution, an aqueous suspension, an oily solution, an oily suspension and an emulsion, each material containing a predetermined amount of the histone H1 protein.

99. (New) The kit of claim 98, wherein the composition is in the form of a wound dressing.

100. (New) A personal care product supplemented with an antimicrobial composition comprising a eukaryotic histone H1 protein.

101. (New) The personal care product of claim 100, wherein the histone H1 protein is substantially purified.

102. (New) The personal care product of claim 101, wherein the histone H1 protein is covalently linked with polyethylene glycol.

103. (New) The personal care product of claim 100, further comprising a second antimicrobial composition.

104. (New) The personal care product of claim 103, wherein the second antimicrobial composition comprises an antibiotic selected from the group consisting of histone H2A, histone H2B, histone H3, histone H4, histone H5, penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin.

105. (New) The personal care product of claim 104, wherein any of the penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin is in a form selected from the group consisting of a salt and an ester.

106. (New) The personal care product of claim 100, selected from the group consisting of a cream, a lotion, a deodorant, a lipstick, a toothpaste, a tooth powder, a dental floss, a mouthwash, a sanitary napkin, a vaginal tampon and an insole.

107. (New) A medical device comprising an antimicrobial composition comprising a eukaryotic histone H1 protein.

108. (New) The medical device of claim 107, wherein the histone H1 protein is substantially purified.

109. (New) The medical device of claim 108, wherein the histone H1 protein is covalently linked with polyethylene glycol.

110. (New) The medical device of claim 107, further comprising a second antimicrobial composition.

111. (New) The medical device of claim 110, wherein the second antimicrobial composition comprises an antibiotic selected from the group consisting of histone H2A, histone H2B, histone H3, histone H4, histone H5, penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin.

112. (New) The medical device of claim 111, wherein any of the penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin is in a form selected from the group consisting of a salt and an ester.

113. (New) The medical device of claim 107 wherein the antimicrobial composition is linked to a surface of the medical device.

114. (New) The medical device of claim 107 wherein the antimicrobial composition is contained in and released from the medical device.

115. (New) The medical device of claim 107, selected from the group consisting of a surgical implant, a catheter, an intravenous pump, a wound dressing, a plaster, a sanitary napkin and a vaginal tampon.

116. (New) The medical device of claim 107, wherein the device is a titanium implant having a portion of its surface chemically modified and comprising histone H1 protein.

117. (New) A medical device of claim 107 comprising a coated surface containing histone H1 protein.

118. (New) A medical device of claim 107 comprising a coupling group on the surface of the device for covalently or electrostatically linking the histone H1 protein to the surface.

119. (New) A medical device of claim 107, wherein the device comprises a coating with a composition comprising the histone H1 protein and at least one of a synthetic polymer and a polymer containing a biological macromolecule.

120. (New) A wrap of synthetic polymer for perishable food, the wrap comprising an antimicrobial composition comprising a eukaryotic histone H1 protein.

121. (New) The wrap of claim 120, wherein the histone H1 protein is substantially purified.

122. (New) The wrap of claim 120, further comprising a second antimicrobial composition.

123. (New) The medical device of claim 122, wherein the second antimicrobial composition comprises an antibiotic selected from the group consisting of histone H2A, histone H2B, histone H3, histone H4, histone H5, penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin.

124. (New) The medical device of claim 123, wherein any of the penicillin, streptomycin, vancomycin, bacitracin, polymyxin, neomycin, chloramphenicol, chlortetracycline, ciprofloxacin, tobramycin, erythromycin, genamicin, gramicidin, oxytetracycline and norfloxacin is in a form selected from the group consisting of a salt and an ester.

125. (New) The wrap of claim 120, wherein the histone H1 protein is covalently linked to anchoring groups of at least one synthetic polymer containing or forming the wrap.

126. (New) The wrap of claim 120 comprising a coupling group on the surface of the wrap covalently-linked with the histone H1 protein.